

COMPLETE LISTING OF THE CLAIMS

The following lists all of the claims that are or were in the above-identified patent application. The status identifiers respectively provided in parentheses following the claim numbers indicate the current statuses of the claims.

Claim 1 (canceled):

Claim 2 (currently amended): The laser submount of claim [[1]] 17, wherein the substrate is selected from the group consisting of silicon, quartz, sodium borosilicate glass, sapphire, gallium arsenide, silicon carbide, and gallium phosphide.

Claim 3 (currently amended): The laser submount of claim [[1]] 17, further comprising:

an interconnect above the planarization layer.

Claim 4 (original): The laser submount of claim 3, wherein the planarization layer is an oxide layer.

Claim 5 (previously presented): The laser submount of claim 3, wherein the top layer comprises a dielectric layer covering the interconnect, the laser submount further comprising:

a contact pad above the dielectric layer, wherein the laser is electrically connected to the contact pad.

Claim 6 (previously presented): The laser submount of claim 5, further comprising:

a sealing ring above the dielectric layer and surrounding the contact pad and the laser.

Claim 7 (currently amended): The laser submount of claim [[1]] 17, further comprising:

at least one of a passive integrated circuit and an active integrated circuit.

Claims 8 to 14 (canceled).

Claim 15 (currently amended): A laser submount on top of which a laser is mounted, comprising:

- a substrate;

- an alignment post;

- a lens above the substrate and below the laser;

- a planarization layer covering the lens;

- an interconnect above the planarization layer;

- a dielectric layer covering the interconnect;

- a contact pad above the dielectric layer, wherein the laser is electrically connected to the contact pad; and

- a plug electrically connecting the interconnect and the contact pad;

wherein the lens directs light from the laser through a body of the substrate into the alignment post;

such that the light directed from the lens is focused near an end of the alignment post.

Claim 16 (currently amended): A laser submount on top of which a laser is mounted, comprising:

- a substrate;

- an alignment post;

- a lens above the substrate and below the laser;

- a planarization layer covering the lens;

- an interconnect above the planarization layer;

- a dielectric layer covering the interconnect;

- a contact pad above the dielectric layer, wherein the laser is electrically connected to the contact pad;

- a sealing ring above the dielectric layer and surrounding the contact pad and the laser;

- a first plug electrically connecting the interconnect and the contact pad;

- another contact pad above the dielectric layer and outside of the sealing ring;

and

- a second plug electronically connecting the interconnect and the another contact pad;

- wherein the lens directs light from the laser through a body of the substrate into the alignment post;

- such that the light directed from the lens is focused near an end of the alignment post.

Claim 17 (new): A laser submount on top of which a laser is mounted,
comprising:

- a substrate;
- an alignment post;
- a lens above the substrate and below the laser;
- a planarization layer covering the lens;
- a top layer on top of which a laser is mounted, the top layer being above the lens;

wherein the lens directs light from the laser through a body of the substrate into the alignment post;

such that the light directed from the lens is focused near an end of the alignment post.

Claim 18 (new) The laser submount of claim 17 wherein the lens is a bifocal diffractive lens that provides two focal lengths.

Claim 19 (new) The laser submount of claim 17 wherein the lens is a hybrid diffractive/refractive element that provides one focal length.

Claim 20 (new) The laser submount of claim 17 wherein the alignment post is shaped as a hollow cylinder.

Claim 21 (new) The laser submount of claim 17 wherein the alignment post is shaped as a solid, transparent cylinder.

Claim 22 (new) The laser submount of claim 17 wherein an alignment feature on the alignment post is an outer diameter of the alignment post.

Claim 23 (new) The laser submount of claim 17 wherein a transparent partial sphere is used as an alignment feature.

Claim 24 (new) The laser submount of claim 17 wherein the substrate is a silicon wafer of a thickness of 675 microns that is transparent to 1310 nanometer light.